



The Importance of Improving Data Integrity and Completeness

OFFICE OF RESEARCH AND
JUSTICE STATISTICS

ACAP 2022

Getting to “Good” Data

Is it important to have good data?

Data Quality & Data Integrity

How can you participate in making our data the best they can be?

Who Cares about Court Statistics?

WHAT IS “HIGH QUALITY DATA” ANYWAY?

Who Cares about Court Statistics?

Court Data are used and shared electronically in several ways

Automated exchanges with justice system partners, and other government actors at the local, state, and federal level

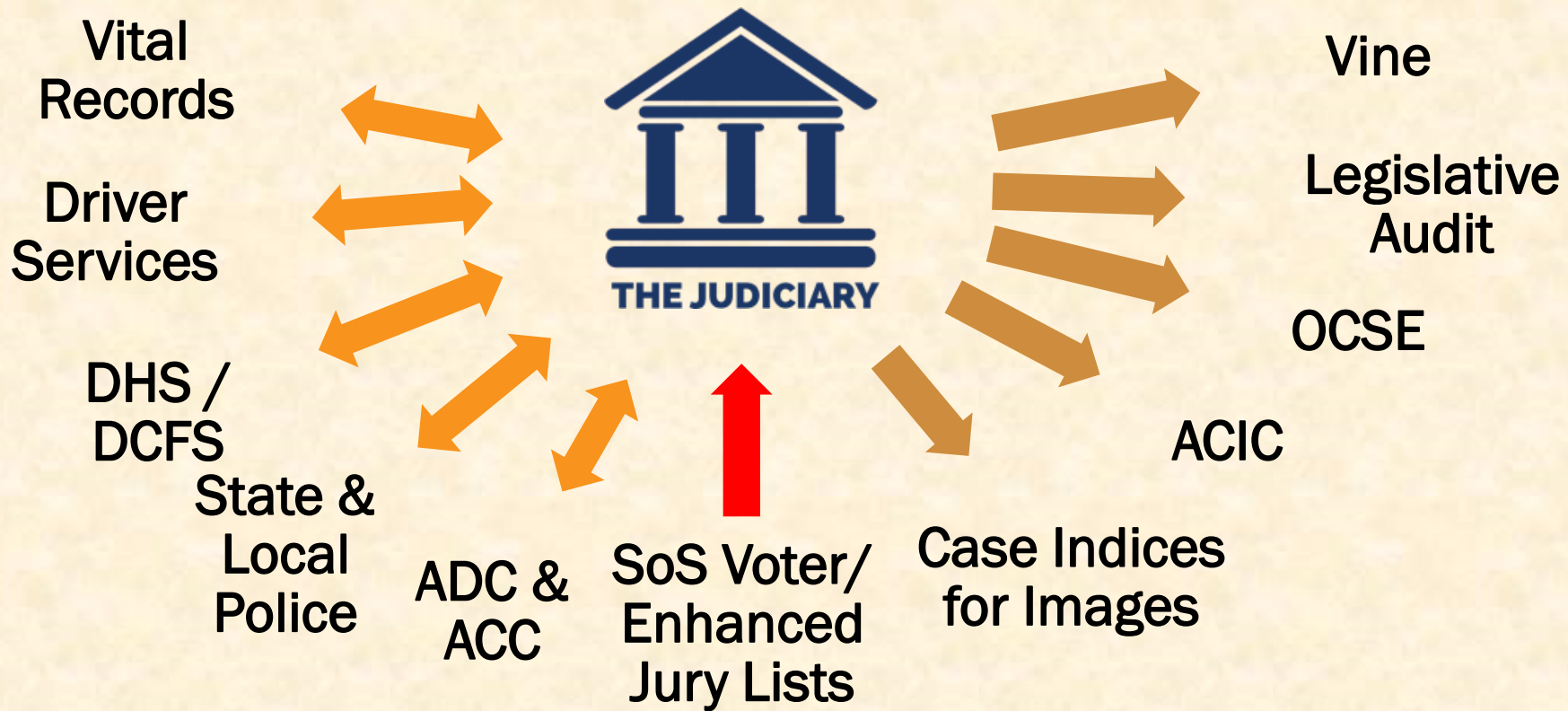
Subscription service to bulk data clients, ensuring that commercial uses of our data are accurate, up-to-date, and carefully monitored

Custom data requests to individual courts, government offices and agencies, and the public

Used for research projects to answer questions of interest to court stakeholders

Who Cares about Court Statistics?

Our Data Sharing Partners



Who Cares about Court Statistics?

Bulk Data Clients

Background
checks for
employers

Mercantile and
consumer credit
reporting

Marketing and
customer service
analytics

Actuarial risk
management
and fraud
prevention

Who Cares about Court Statistics?

Compiled Data Requests

Judges and Clerks Offices	County and City Officials	Prosecuting Attorneys Offices	Public Defenders Offices
State Executive Agencies	Supreme Court Policy Committees	National Data Reporting Agencies	Journalists and News Outlets
Academic Researchers	Attorneys and Litigants	Advocacy Groups	Individual Citizens

Who Cares about Court Statistics? Everyone!

4th Circuit judges agree on divvying up caseloads

July 8, 2019 at 1:58 a.m.

State lawmakers OK \$2M to hire more prosecutors and public defenders to address case backlogs

by [Stephen Simpson](#) | March 9, 2022 at 7:07 a.m.

Lawyers, judges fret as court cases pile up

by [John Moritz](#) | November 29, 2020 at 2:30 a.m.

Counties receive new judges' positions

by TRACY M. NEAL NWA Democrat-Gazette | April 15, 2019 at 1:00 a.m.

Traffic court to begin trying to clear backlog

by [The Arkansas Democrat-Gazette](#) | August 26, 2021 at 3:25 a.m.

\$1M grant goes toward identifying disparities in Arkansas' juvenile justice system

by [Stephen Simpson](#) | May 4, 2022 at 4:00 a.m.

High Quality Data builds trust and responsiveness

Having high quality data supports arguments for self-governance and resource requests

High quality data improves the ability of justice actors to observe and measure the performance of the justice system

High quality data can be used to help manage long- and short-term resource allocation and case processing

$$\text{PRECISE NUMBER} + \text{PRECISE NUMBER} = \text{SLIGHTLY LESS PRECISE NUMBER}$$

$$\text{PRECISE NUMBER} \times \text{PRECISE NUMBER} = \text{SLIGHTLY LESS PRECISE NUMBER}$$

$$\text{PRECISE NUMBER} + \text{GARBAGE} = \text{GARBAGE}$$

$$\text{PRECISE NUMBER} \times \text{GARBAGE} = \text{GARBAGE}$$

$$\sqrt{\text{GARBAGE}} = \text{LESS BAD GARBAGE}$$

$$(\text{GARBAGE})^2 = \text{WORSE GARBAGE}$$

$$\frac{1}{N} \sum (N \text{ PIECES OF STATISTICALLY INDEPENDENT GARBAGE}) = \text{BETTER GARBAGE}$$

$$\left(\frac{\text{PRECISE}}{\text{NUMBER}} \right)^{\text{GARBAGE}} = \text{MUCH WORSE GARBAGE}$$

$$\text{GARBAGE} - \text{GARBAGE} = \text{MUCH WORSE GARBAGE}$$

$$\frac{\text{PRECISE NUMBER}}{\text{GARBAGE} - \text{GARBAGE}} = \text{MUCH WORSE GARBAGE, POSSIBLE DIVISION BY ZERO}$$

$$\text{GARBAGE} \times 0 = \text{PRECISE NUMBER}$$

There's no
substitute for
data quality or
quick fix for
bad data

Image by
[XKCD](#)

What is High Quality Data?

Accurate	The data correspond to the “real world” correctly
Complete	The data are free of gaps and missing values
Consistent	The same values are used to represent the same things
Timely	Data are accessible and up-to-date
Unique	Data items are not repeated
Valid	Data elements have proper formats and values

Data Integrity

PUTTING HIGH QUALITY DATA TO USE:

A SMALL EXERCISE

Data Quality and Data Integrity

Data integrity includes data quality, but goes further, adding context and other information to make data useful

Data are
integrated
across systems

Data are secure
and trustworthy

Data are
enriched with
external
information

Data are used
carefully,
according to
their
informative
value

An Example: Continuances and Case Duration

It's widely believed that case duration is affected by the number of continuances that are granted

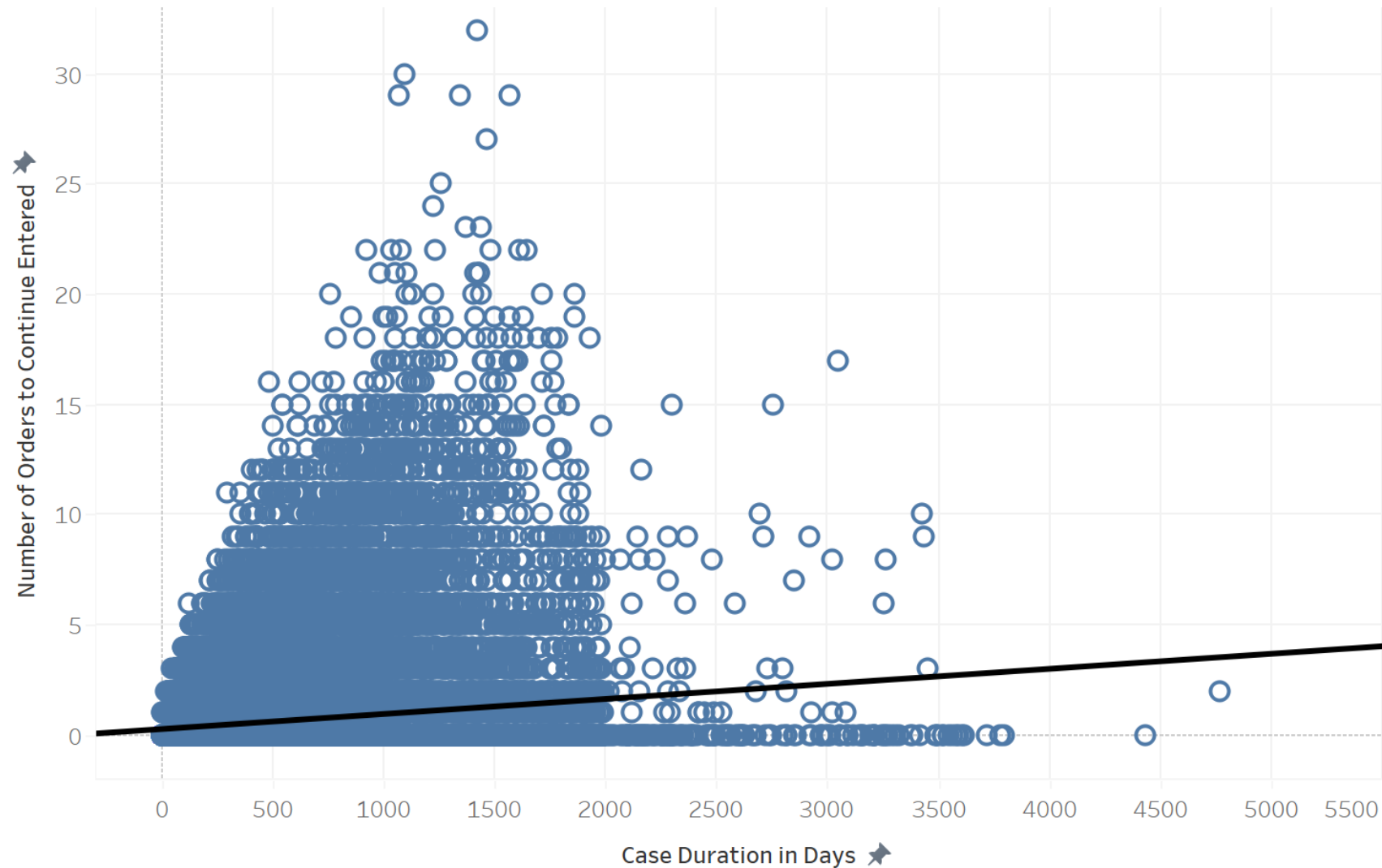
- Based on a national sample, each continuance on average adds 21 days to case duration in felony criminal cases (NCSC, 2020)

Can we use our data to demonstrate a similar effect?

- Let's try it

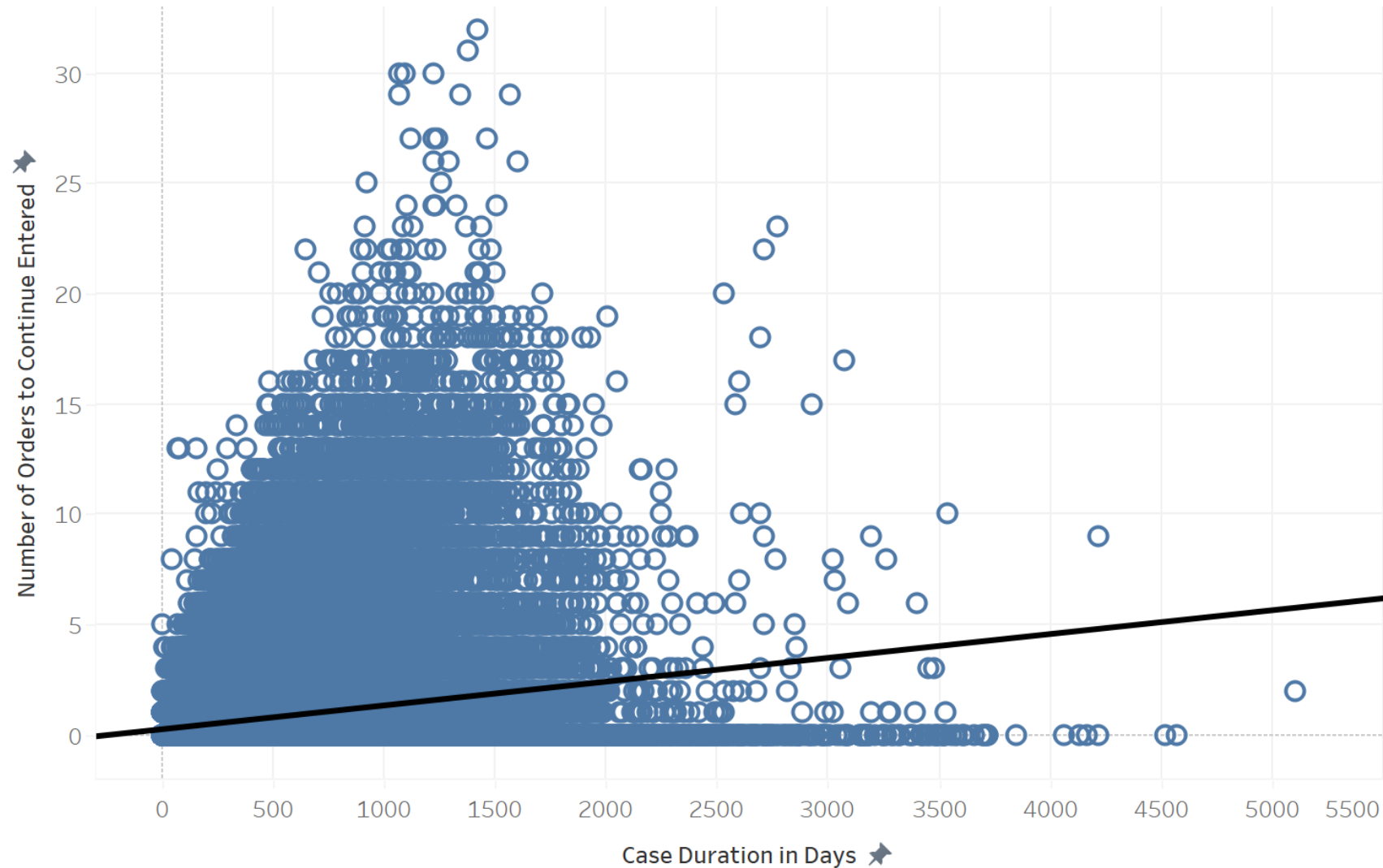
Case Duration and Continuance Orders, 2017 - 2022

Scatterplot of the number of Case Duration in days by the number of Continuance Orders entered in Contexte for **all active** Criminal Felony cases, 2017 - 2022



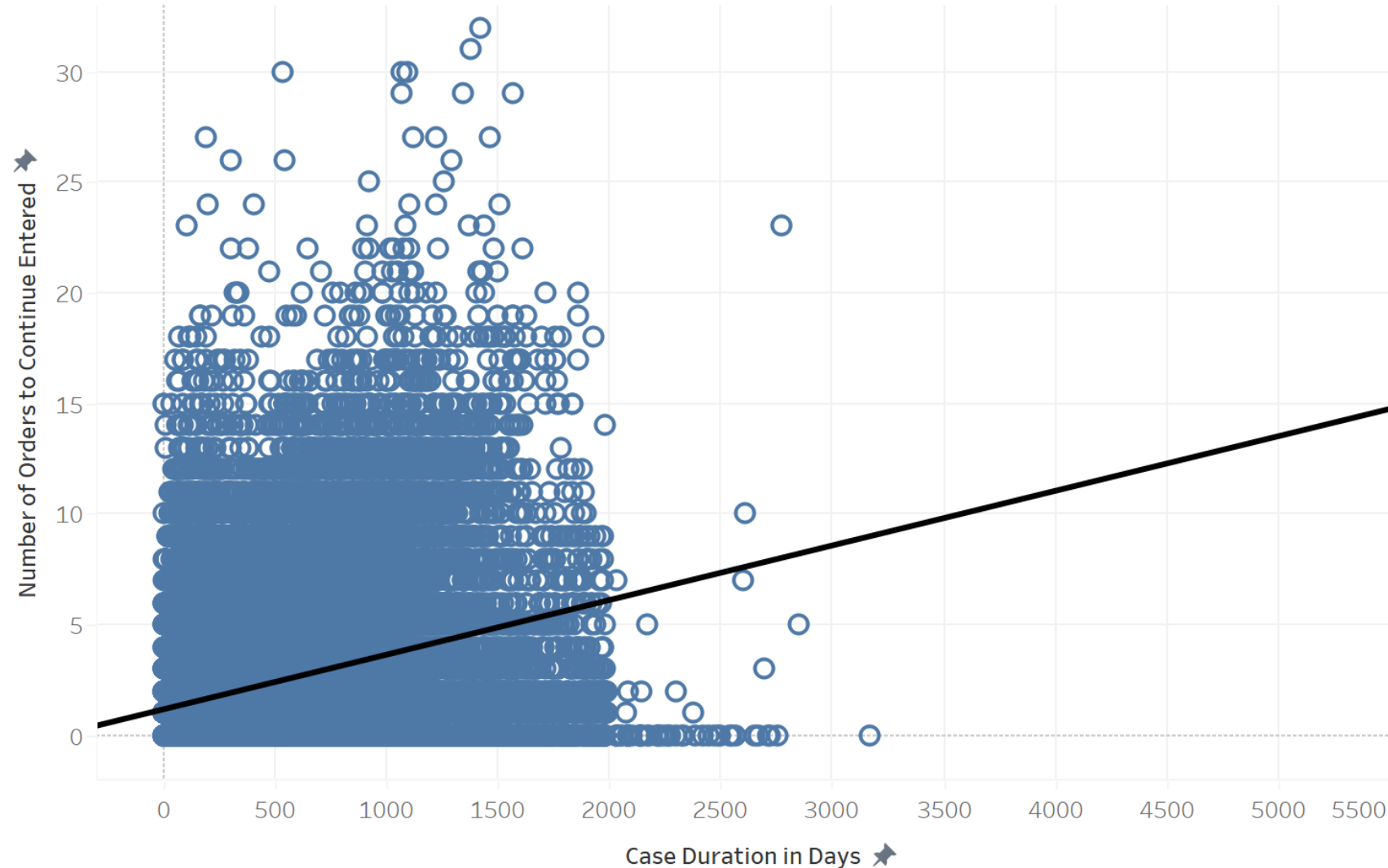
Case Duration and Continuance Orders, 2017 - 2022

Scatterplot of the number
of Case Duration in days by
the number of
Continuance Orders
entered in Contexte for **all**
Criminal Felony cases,
2017 - 2022



Case Duration and Continuance Orders, 2017 - 2022

Scatterplot of the number
of Case Duration in days by
the number of
Continuance Orders
entered in Contexte for **all**
Criminal Felony cases **with**
at least one non-statistical
docket entry, 2017 - 2022



An Example: Continuances and Case Duration

Using only disposed cases, no real effect is evident

- Expand the sample to all cases, disposed or not (undisposed case age is based on end of sample range)

Slight change in effect from adding open cases

- Many cases have only statistical documentation, meaning continuance orders may exist, but are not entered

Try using only cases that have at least one non-statistical docket entry

- Using data we can have more confidence are complete, the effect is clear

An Example: Continuances and Case Duration

One aspect of Data Integrity is about using other resources and information to get the most out of the data you have.

- That could mean bringing additional data to bear on a use case or restricting the scope of your inquiry based on what you know about data quality

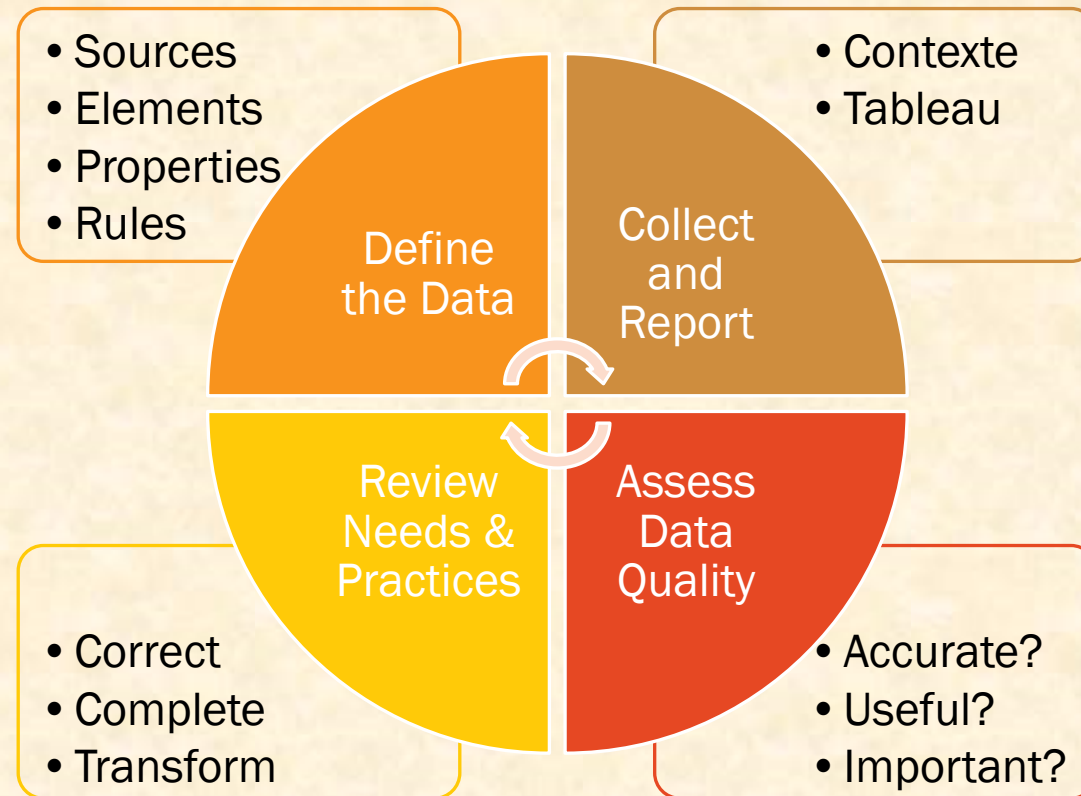
Improving Data Quality improves the value of all our data

- Completeness can be as important as accuracy

Making Data Better

USING TABLEAU RESOURCES TO IMPROVE DATA QUALITY

How do we get High Quality Data?



How do we get High Quality Data?

Review your monthly and quarterly reports

- Make use of the information in the reports

Follow up on areas of concern

- Correct inaccuracies, attend to worrisome trends

Make use of reports from Contexte and Tableau

- Data Quality & other reports can be accessed with a license or from your RCA

Observe progress with report reviews

- ORJS are happy to re-run reports to see changes in your information

Using Tableau to Improve Data Quality

Monthly and Quarterly reports

- Periodic summaries/reviews of court activities and current cases

Data Quality reports

- Summaries and lists of cases that may be improperly or incompletely documented

Case Management reports

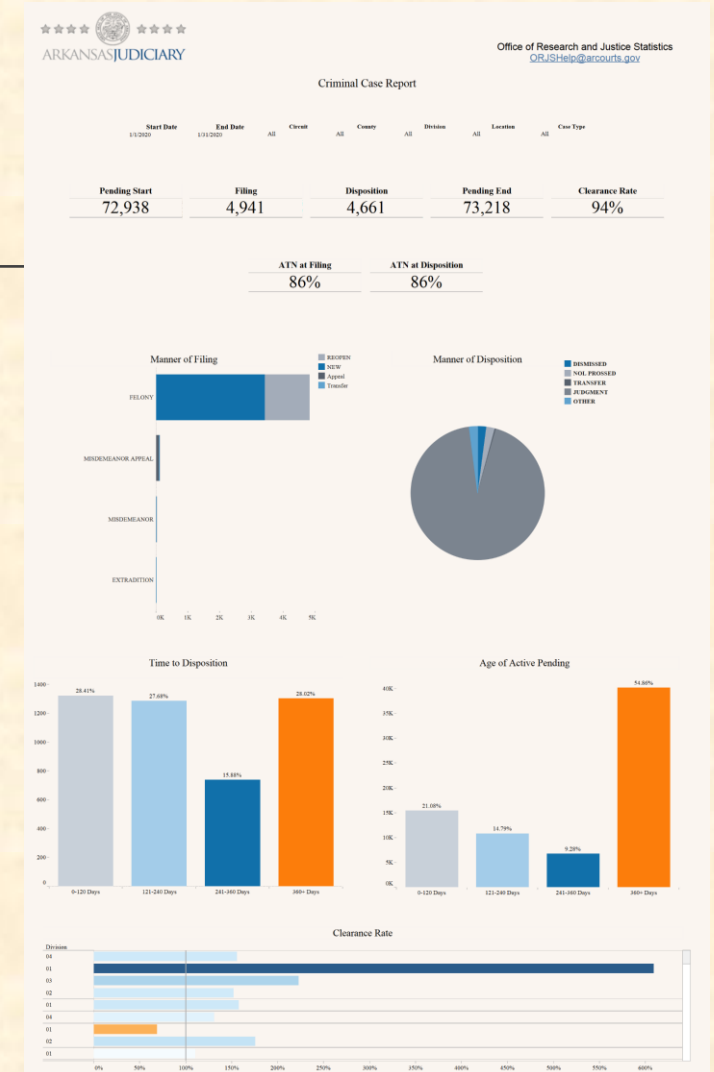
- Summaries and lists of cases with useful information to assist with current work

The Monthly and Quarterly Reports from Tableau

Courts on Contexte should see a report each month like this

Summaries of recent activities and the current state of cases

Opportunities to improve data and act on caseloads



The Monthly Report – The Header

Criminal Case Report																			
Start Date		End Date		Circuit		County		Division		Location		Case Type							
1/1/2020		1/31/2020		All		All		All		All		All							
Pending Start				Filing				Disposition				Pending End				Clearance Rate			
72,938				4,941				4,661				73,218				94%			

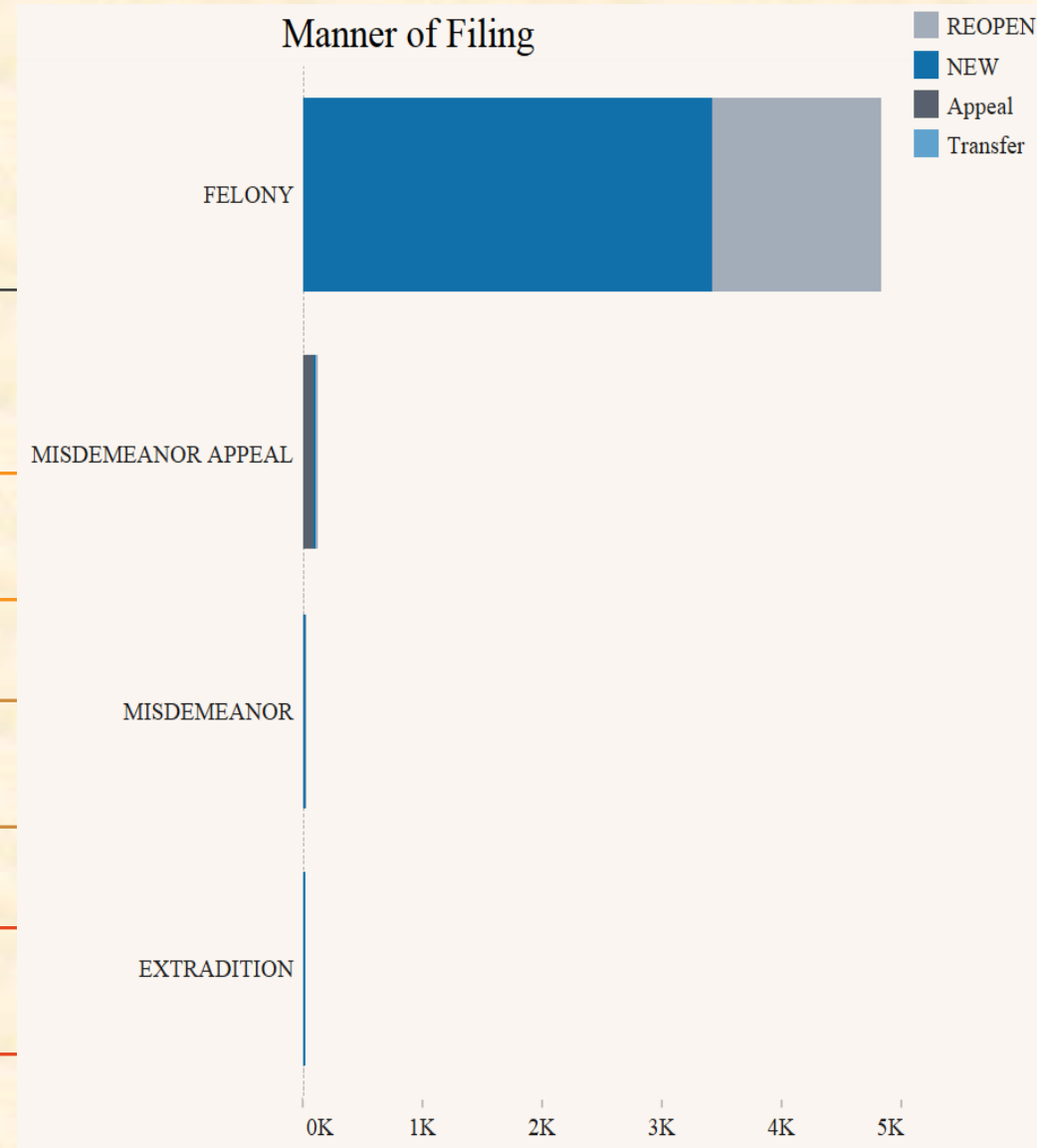
Starting Cases	Incoming Cases	Outgoing Cases	Remaining Cases	Clearance Rate
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The New Filings Bar Graph

Distribution of cases filed this month by Case Type

Bars show relative volume by type of filing (New/Reopen/Transfer)

The longest bar determines the scale (the range at the bottom)



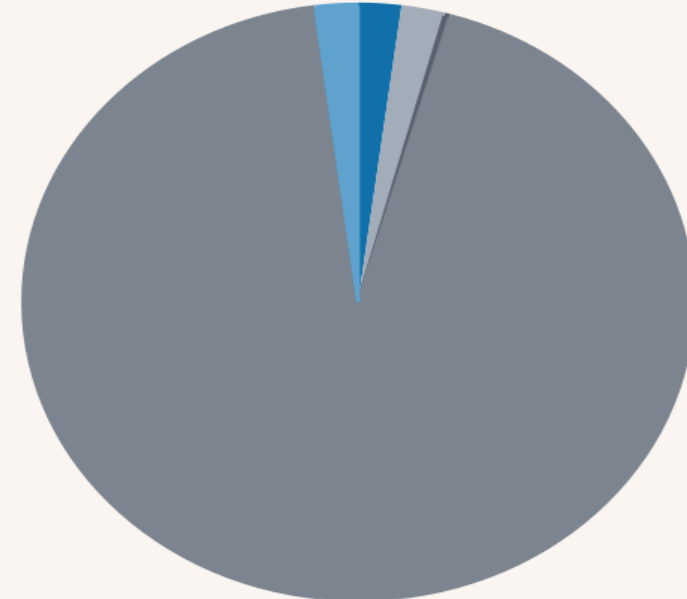
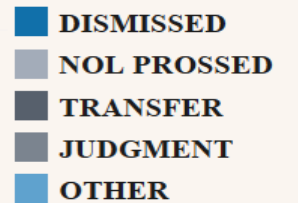
The New Closures Pie Graph

Distribution of cases disposed this month by Manner of Disposition

Pie graph shows relative proportion out of 100%

Sizes do not reflect absolute volume

Manner of Disposition



What if something is wrong?

Tableau Data Quality Reports

Report Name	Use
Open Case Report	Find “pending” cases that can be closed
MF/MD Data Quality	Find filed and disposed cases that aren’t being counted
Docket Code Associations	Find cases that aren’t closed correctly
Judge Assignment Error	Find cases with no Judge/wrong Judge/bad Judge ID
Closed Case – Open Charges	Find Criminal/Delinquency cases eligible for statistical closure
No Charges	Find Criminal/Delinquency cases opened, but without violations
ATN	Find Criminal cases missing an Arrest Tracking Number
Missing DCINF	Find Domestic Relations cases missing divorce information
Invalid Case ID	Find cases with improper Case IDs

Using a DQ Report for Cleanup The Open Case Report

OPEN CASES					
ISSUE AREA	CIRCUIT	COUNTY	LOCATION	DIVISION	CASE TYPE
(All)	(All)	(All)	(All)	(All)	(All)
LATEST DOCKET	POTENTIAL STATUS	CASE STATUS	PENDING 365 DAYS		
(All)	(All)	(All)	(All)		
All COUNTY/COUNTIES - All CASE TYPE(S) - All DIVISION(S)					Export to Excel
CASE ID	CASE TYPE	CASE STATUS	LATEST DOCKET	DOCKET FILING DATE	AGE OF ACTIVE PENDING
0CV-19-42	CIVIL - OTHER	OPEN	AOC COVERSHEET CIVIL	4/3/2019	483
1DCR-7-134	FELONY	OPEN	AOC COVERSHEET CRIMINAL	12/7/2017	965
1DPR-16-58	NARCOTIC COMMITMENT	N/A	MOF ORIGINAL	9/8/2016	1420
1SCV-18-70	SELLER PLAINTIFF (DEBT COLL.)	OPEN	AOC COVERSHEET CIVIL	5/2/2018	819
1SDR-17-56	DIVORCE	OPEN	CONFIDENTIAL INFORMATION SHEET	5/19/2017	1167
1SPR-17-50	PROBATE - OTHER	OPEN	MOF ORIGINAL	5/22/2017	1164
01CR-16-208	FELONY	N/A	CRIMINAL INFORMATION SHEET	12/30/2016	1307
01CR-17-74	FELONY	OPEN	MOF ORIGINAL	5/31/2017	1155

The Open Case Report

Select Court, Issue, Case Type, and Filter for Potential Closures

OPEN CASES

ISSUE AREA

(All)

CIRCUIT

(All)

COUNTY

(All)

LOCATION

(All)

DIVISION

(All)

CASE TYPE

(All)

LATEST DOCKET

(All)

POTENTIAL STATUS

(All)

CLOSURE

INACTIVE

OTHER

SET FOR REVIEW

CASE STATUS

(All)

PENDING 365 DAYS

(All)

Export to Excel

Case Type(s) - All

Division(s)

CASE ID	CASE TYPE	CASE STATUS	LATEST DOCKET	DOCKET FILING DATE	AGE OF ACTIVE PENDING
0CV-19-42	CIVIL - OTHER	OPEN	AOC COVERSHEET CIVIL	4/3/2019	483
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01CR-17-74	FELONY	OPEN	MOF ORIGINAL	5/31/2017	1155

The Open Case Report

Get the Data (Excel, OpenOffice, Google Sheets, etc.)

OPEN CASES

ISSUE AREA

(All) ▾

CIRCUIT

(All) ▾

COUNTY

(All) ▾

LOCATION

(All) ▾

DIVISION

(All) ▾

CASE TYPE

(All) ▾

LATEST DOCKET

(All) ▾

POTENTIAL STATUS

CLOSURE ▾

CASE STATUS

(All) ▾

PENDING 365 DAYS

(All) ▾

All COUNTY/COUNTIES - All CASE TYPE(S) - All DIVISION(S)

Export to Excel

CASE ID	CASE TYPE	CASE STATUS	LATEST DOCKET	DOCKET FILING DATE	AGE OF ACTIVE PENDING
01DCR-03-55	FELONY	N/A	MOD JUDGMENT/DECREE/ORDER	9/21/2016	3298
01DCR-14-53	FELONY	CLOSED	MOD JUDGMENT/DECREE/ORDER	5/26/2020	588
01DCR-18-19	FELONY	CLOSED	MOD JUDGMENT/DECREE/ORDER	2/12/2020	266
01DCR-18-62	FELONY	CLOSED	CASE CLOSED	6/16/2020	182
01DCR-18-67	MISDEMEANOR	CLOSED	CASE CLOSED	7/1/2020	734
01DCR-18-84	FELONY	CLOSED	CASE CLOSED	3/18/2020	247
01DCR-18-90	MISDEMEANOR APPEAL	CLOSED	CASE CLOSED	5/22/2019	659
01DCR-19-24	FELONY	CLOSED	CASE CLOSED	4/9/2019	510

Using a DQ Report for Cleanup

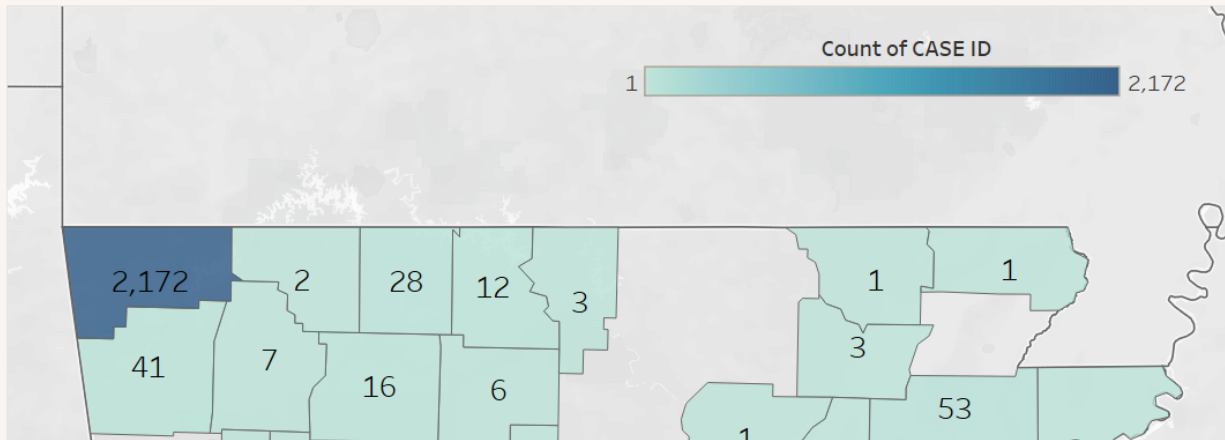
Missing MF Report (Statistical reporting of filed cases)



MISSING OPENING MF

Office of Research and Justice
Statistics
ORJSHelp@arcourts.gov

ISSUE AREA: All CIRCUIT: All DIVISION: All COUNTY: All LOCATION: All CASE TYPE: All START DATE: 1/1/2017



CASE ID	CASE DESC	CR15/FI42 FILING DATE
01CV-19-39	STATE V JESSICA SMITH	
01CV-21-39	BOB HALL RENTALS INC V PAM HERRING	
01DCR-21-148	STATE V KENJI AUSTIN	
01DCR-22-1	STATE V MISCELLANEOUS	

Regional Court Administrators

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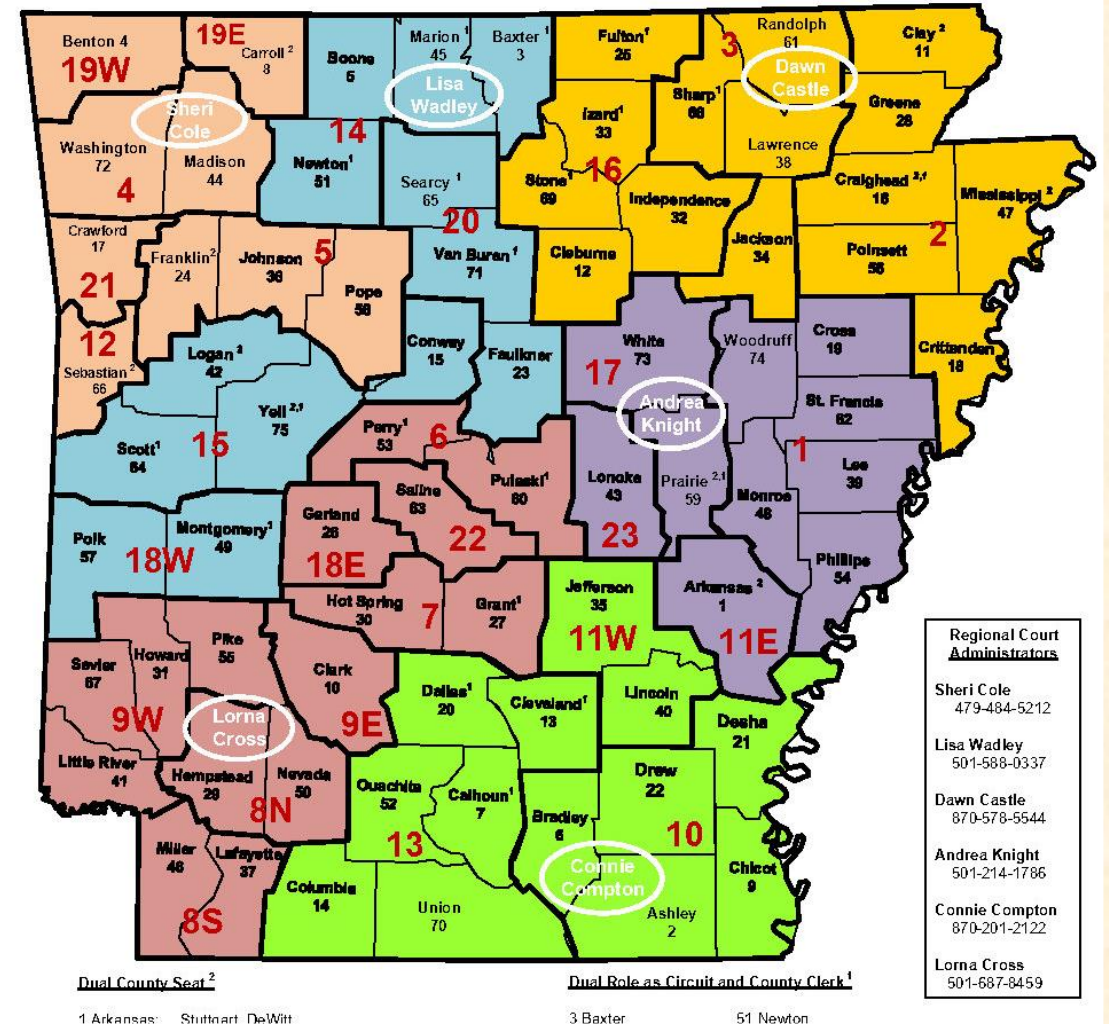
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Working Cases

Case Monitoring/Management Reports

Report Name	Use
Attorney Open Case Report	List of Open cases with recent activity and added attorneys
Victim Under 14 Report	List of Open Criminal cases identified as having a victim < 14
Set for Review Detail Report	List of DN and PR cases with Case Status of “Set for Review”
Case Balance Report	List of cases with outstanding balances
Charge Filing Dashboard	Observe the distribution of Criminal charges filed by type
Images DQ	Find cases with inappropriate document/image security

The Attorney Open Case Report

Open Cases with Latest Docket & Attorney Party information



ATTORNEY OPEN CASES

USER GUIDE

Export to Excel

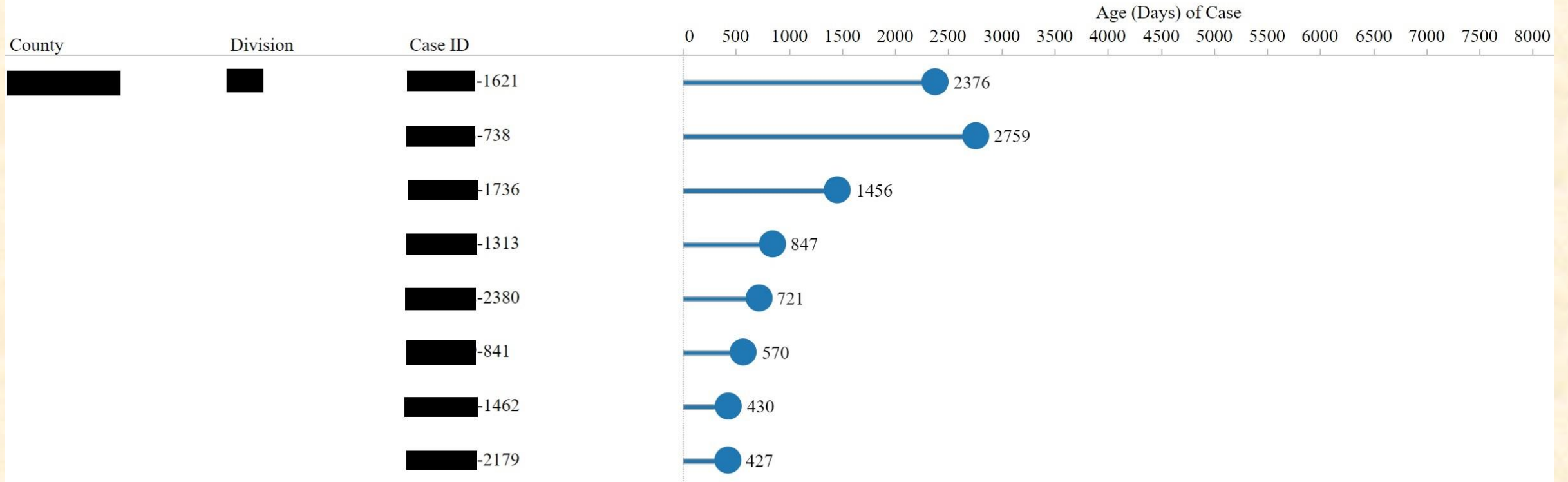
CIRCUIT	DIVISION	COUNTY	LOCATION	ISSUE AREA	CASE TYPE
All	All	All	All	CIVIL	All
CASE STATUS	POTENTIAL STATUS	PENDING 365 DAYS	ATTORNEY ID	LAST NAME	ACTIVE ATTORNEY
All	All	All	All	All	YES

CASE ID	CASE DESC	CASE TYPE	PARTY TYPE	ATTORNEY NAME	LATEST DOCKET
0CV-19-42	TROY BROWN V THEOPHILUS KING	CIVIL - OTHER	APL - PLAINTIFF/PETITIONER ATTORNEY	STREETMAN, THOMAS S	AOC COVERSHEET CIVIL
1SCV-18-70	CAPITAL ONE BANK V JAMES JONES	SELLER PLAINTIFF (DEBT COLL.)	APL - PLAINTIFF/PETITIONER ATTORNEY	CHASTAIN, AUTUMN BLAISE	AOC COVERSHEET CIVIL
				ENGLISH, LAURA L	AOC COVERSHEET CIVIL
01DC-19-23	CAPITAL ONE BANK V LORENE HARRIS	SELLER PLAINTIFF (DEBT COLL.)	APL - PLAINTIFF/PETITIONER ATTORNEY	CAPITAL ONE BANK,	AOC COVERSHEET CIVIL
				CHASTAIN, AUTUMN	AOC COVERSHEET CIVIL
				ENGLISH, LAURA L	AOC COVERSHEET CIVIL

Criminal Cases: Victim Under 14 report

Admin Order 5 prioritizes cases with victims under 14

All Circuit Criminal Victim Under 14 Case Detail
As of 1/31/2020



Set for Review Case Details (DN & PR)

Case Types, Date of last report, Months since judgment

All Circuit Probate Guardianship Set for Review Case Detail
As of 11/10/2020

Division	County	Case Type	Case ID	STATUS	Date of Last Annual Report	Time Since Judgement (Months)
<input type="checkbox"/>	<input type="text"/>	ADOPTION-PROBATE	<input type="checkbox"/> PR-17-990	SET FOR REVIEW	NO DATA	36
		ADULT PROTECTIVE CUSTODY	<input type="checkbox"/> PR-12-186	SET FOR REVIEW	NO DATA	102
			<input type="checkbox"/> PR-13-571	SET FOR REVIEW	NO DATA	34
			<input type="checkbox"/> PR-16-757	SET FOR REVIEW	NO DATA	34
			<input type="checkbox"/> PR-17-483	SET FOR REVIEW	NO DATA	34
			<input type="checkbox"/> PR-17-1035	SET FOR REVIEW	NO DATA	31
			<input type="checkbox"/> PR-18-33	SET FOR REVIEW	NO DATA	33
			<input type="checkbox"/> PR-18-321	SET FOR REVIEW	NO DATA	30

What's next?

Case Monitoring/Management Reports

Report Name	Use
Criminal Docket Management Dashboard	Criminal cases with pertinent data elements (Defendant name, Arrest, Lead Charge, Plea/Disposition, Milestones)
Filing/Disposition Trends Dashboard	Time series visualizations of filed cases, dispositions, clearance rates and changes in active pending over time
Judge Assignment Dashboard	Distribution of Judge Assignments by Issue/Case Type, Proportion of Cases by Divisions

Regional Court Administrators

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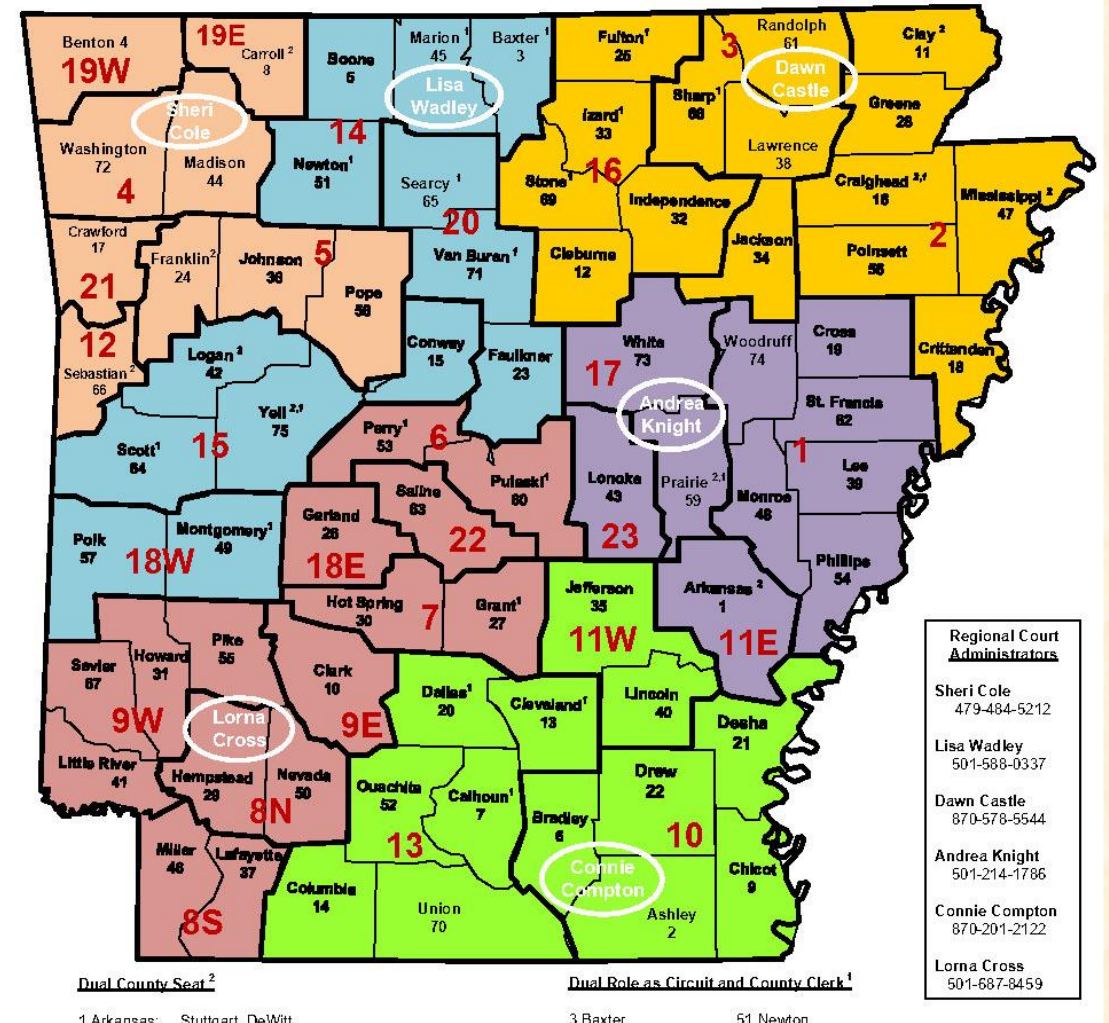
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Bettina Toth

- Research Analyst

Scott Graves

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Questions?
Comments?

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